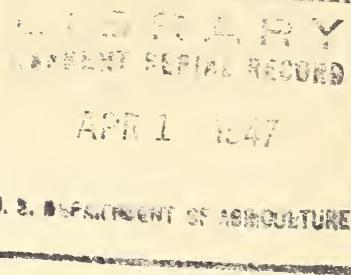


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X ESTIMATES OF DAMAGE TO CORN BY THE EUROPEAN CORN BORER IN 1946

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The Bureau of Entomology and Plant Quarantine and various State agencies cooperated during the late summer and fall of 1946 in determining the abundance of the European corn borer in field and sweet corn in 446 infested counties in 22 States. From these population data it is estimated that the European corn borer caused a loss of about \$28,741,000 in the counties surveyed. Of this amount, approximately \$2,061,000, or 7 percent occurred in sweet corn. Inasmuch as only about half of the counties known to be infested in the 22 states were surveyed the estimate of total loss is believed to be very conservative. It is probable, however, that the estimates include at least 90 percent of the total loss caused by this insect during 1946 in the United States. Of the total estimated loss, 84 percent occurred in four states, Iowa, Illinois, Indiana, and Pennsylvania. In these four states only 62 percent of the total acreage of corn was included in the area surveyed.

The 1946 survey indicated a decrease in corn borer abundance as compared with 1945 in all states except Iowa, Minnesota, and North Carolina. Because of this decrease the estimated loss in 1946 was 22 percent less than in 1945, even though crop values were higher, the acreage surveyed was larger, and borer populations were greater in the above-named States.

The estimates were computed as in the past by utilizing the established indices of damage of 3, 5, and 8 percent loss per borer per plant in corn grown for grain, for processing, and for market sweet corn, respectively. Values of corn were determined for each county surveyed by utilizing 1945 agricultural census data, or adjusted 1940 census data, on acreage and yields, and prices received by the growers in 1946. The market prices used were those reported by the Bureau of Agricultural Economics and the Production and Marketing Administration of the United States Department of Agriculture. Various State and City organizations generously supplied information on prices received by growers for market sweet corn.

The computations are summarized in table 1 for each State, showing acreage of corn in area surveyed, crop value, and estimated losses of grain corn and sweet corn. The abundance survey was made in an area having an estimated 22,709,000 acres of corn, the crop from which was valued at \$1,387,724,000 dollars..

Table 1.—Estimates of damage by the European corn borer to corn harvested for grain to sweet corn in the 446 counties included in the 1946 corn borer abundance survey.

Stat.	Counties surveyed	Corn harvested for grain			Sweet corn			Total estimated loss of crop value
		Corn in area surveyed	Estimated value of crop	Estimated loss of crop value	Corn in area surveyed	Estimated value of crop	Estimated loss of crop value	
Connecticut	8	8,486	643,391	2,131	3,344	1,137,764	10,654	12,785
Delaware	3	138,613	5,457,541	120,158	6,411	680,215	20,203	140,361
Illinois	37	4,603,644	278,955,679	9,183,622	48,189	3,129,506	256,823	9,440,445
Indiana	70	3,802,115	202,881,472	1,975,776	28,749	2,819,864	60,026	2,035,802
Iowa	58	6,185,506	415,948,466	10,514,159	23,421	1,270,163	67,182	10,581,341
Kentucky	9	138,406	6,926,166	90,668	83	15,717	1,450	92,118
Maine	9	1,779	125,878	788	13,060	1,956,019	25,800	26,588
Maryland	19	378,887	19,899,950	689,826	32,681	1,527,077	97,397	787,223
Massachusetts	4	1,671	109,857	3,641	3,035	796,384	48,457	52,098
Michigan	6	212,290	12,944,199	35,570	6,959	1,657,655	5,816	41,386
Minnesota	22	1,494,916	86,184,154	258,934	53,872	2,565,536	9,393	268,327
Missouri	18	1,073,074	55,078,626	85,100	2,091	489,196	6,643	94,747
New Hampshire	9	3,036	238,289	1,723	2,060	540,543	9,385	11,608
New Jersey	20	134,177	7,419,159	249,497	20,501	6,324,077	667,882	917,379
New York	20	73,804	4,335,375	23,500	39,036	6,213,631	151,475	174,975
North Carolina	3	50,001	2,290,590	61,107	392	106,624	5,700	66,807
Ohio	30	1,736,751	99,715,441	676,454	9,198	2,973,914	57,395	733,849
Pennsylvania	32	832,087	49,693,103	1,712,494	33,794	5,472,962	479,537	2,192,031
Rhode Island	1	571	37,239	2,026	123	32,275	4,684	6,710
Vermont	11	3,421	251,624	1,749	1,132	155,355	2,092	3,841
Virginia	14	203,134	10,400,441	206,907	1,467	277,790	20,888	227,795
Wisconsin	43	1,227,776	85,208,221	780,722	75,637	2,827,135	51,855	832,577
Total	446	22,304,145	1,344,744,863	26,679,552	404,635	42,979,404	2,061,237	28,740,789